

# Actuarial Section





WASHINGTON STATE LEGISLATURE  
**Office of the State Actuary**

November 22, 2004

Mr. John F. Charles, Director  
Department of Retirement Systems  
P.O. Box 48380  
Olympia, Washington 98504-8380

Dear Mr. Charles:

The purpose of this letter is to:

- (1) Certify the actuarial adequacy of contributions being made to the pension plans administered by your department, the State of Washington, and participating political subdivisions;
- (2) Discuss the funding of these plans; and
- (3) Certify that our other submissions meet the GFOA certification standards for actuarial reporting.

The information in this letter pertains to the Public Employees' Retirement System (PERS), Teachers' Retirement System (TRS), School Employees Retirement System (SERS), Law Enforcement Officers' and Fire Fighters' Retirement System (LEOFF), Washington State Patrol Retirement System (WSPRS), Judicial Retirement System (JRS), and Judges' Retirement System (Judges). The state contributes to other pension plans which are not administered by your agency.

The Office of the State Actuary performs annual actuarial valuations for all systems listed above. The most recent valuation date for these systems was September 30, 2003.

The assumptions used in our actuarial valuation fall into two categories: economic and demographic. The economic assumptions were prescribed by the Legislature as of July 1, 2001 and include salary increases, inflation, the investment earnings rate, and population growth. The Pension Funding Council is scheduled to review these assumptions every four years. Demographic assumptions include such things as retirement, mortality, termination, and disability rates. These rates are derived by our office from studying the actual experience of these systems. These studies are reviewed annually and studied in depth every six years. The legislature adopted the demographic assumptions effective April 1, 2002 based on our 1995-2000 Experience Study.

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The material pension changes made during the 2003 Legislative Session that became effective during (and after) the 2003 Fiscal Year were disclosed in last year's annual report.

Pension legislation enacted during the 2004 Legislative Session is summarized below (chapter and law year references are provided parenthetically):

- A 30% asset smoothing corridor was added to the asset valuation method for PERS, TRS, SERS, LEOFF and WSPRS. (Chapter 93, Laws of 2004)
- A \$1,000 minimum monthly benefit is established in PERS Plan 1 and TRS Plan 1, before optional payment reductions, for those members with at least 25 years of service and who have been retired at least 20 years. (Chapter 85, Laws of 2004)
- Members of LEOFF Plan 2 who leave service because of a line of duty disability may be eligible to receive a retirement allowance of at least 10 percent of final average salary. (Chapter 4, Laws of 2004)
- Survivors of a LEOFF Plan 2 member with 10 years of service who is killed in the course of employment will receive retirement benefits without actuarial reduction. (Chapter 5, Laws of 2004)
- Beneficiaries of a WSPRS Plan 2 member with 10 years of service who is killed in the course of employment will receive benefits without actuarial reduction. (Chapter 170, Laws of 2004)
- Legislation passed in the 2004 session creates the Public Safety Employees Retirement System (PSERS) Plan 2 effective July 1, 2006. Employees in specified job classes will be eligible to participate in PSERS Plan 2. Prospective membership in PSERS Plan 2 will be offered to public safety employees enrolled in PERS Plan 2 and Plan 3 on July 1, 2006. PSERS Plan 2 provides for an Unreduced Retirement at age 60 with 10 years of service credit in PSERS, early retirement at age 53 with 20 years of service credit with a 3% reduction per year prior to age 60, and disability retirement with 10 years of service credit in PSERS actuarially reduced from age 60. (Chapter 242, Laws of 2004)

There were no other material pension changes during the 2004 Session.

In 1989, the Legislature adopted the objective of amortizing the Unfunded Actuarial Accrued Liability (UAAL) for PERS 1, TRS 1, LEOFF 1 by June 30, 2024. Subsequent benefit increases are funded over this same period. The funding method for these three plans is a modified aggregate method where the normal cost is imputed from PERS 2/3, TRS 2/3, and LEOFF 2, respectively. The amortization calls for payments as a level percentage of system payroll. Employer contributions to the PERS 1 and TRS 1 unfunded liability were suspended for the 2003-2005 biennium. The amortization date, however, remains unchanged. (Chapter 11, Laws of 2003, E1). During fiscal year 2004 the systems were funded according to this method and, if continued following resumption of contributions, the UAAL will be amortized as scheduled.

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LEOFF 1 does not have a UAAL at this time.

PERS 2, TRS 2/3, SERS 2/3, LEOFF 2 and WSP use the aggregate funding method which does not develop a UAAL. These systems are well funded at this time.

The Judicial and Judges Systems are funded on a pay-as-you-go basis. Both systems are closed to new members and have very small liabilities when compared to other state plans. Although they are poorly funded systems, it is expected that the state can continue to meet its obligations by funding on a pay-as-you-go basis because of the small size of the obligations in these two plans.

In performing these valuations, we relied on unaudited member and beneficiary data provided by your department. Both the Department of Retirement Systems and the Office of the State Actuary performed a series of edits to check the quality of the data. In our opinion, the data is sufficient and reliable for the purpose of annual valuations. Unaudited asset and financial information was provided from three sources: the Department of Retirement Systems, the State Investment Board, and the Washington State Treasurer's Report.

The following schedules (or updates to them) were prepared by this office for inclusion in the 2004 Comprehensive Annual Financial Report:

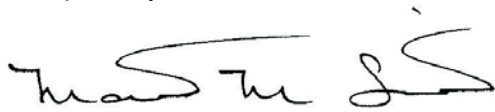
- Schedules of Funding Progress
- Schedule of Employer Contributions
- Summary of Actuarial Assumptions and Methods
- Schedules of Active Member Valuation Data
- Schedules of Retirees and Beneficiaries Added to and Removed from Rolls
- Solvency Tests
- Analysis of Selected Experience

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The actuarial assumptions and methods prescribed by the Legislature were used for reporting funding items. GASB disclosure items were provided in accordance with GASB statements 25 and 27. As a result, disclosure items may not match comparable funding items disclosed in our most recent actuarial valuation report. The funding policy and reporting items are discussed in Notes to the Required Supplementary Information, as well as in the section Funding Policy, both in the Financial Section of the CAFR.

Respectfully submitted,



Matthew M. Smith  
State Actuary



Philip Martin McCaulay  
Associate Actuary

# Summary of Plan Provisions

A narrative summary of retirement plans managed by DRS is provided in Section B of Note 2 in the Financial Section of this CAFR. A tabular summary of key plan provisions as of June 30, 2004, is provided below.

Plan	Membership Eligibility	Vesting	Retirement Eligibility	Benefit
<b>PERS Plan 1</b> (By 9/30/77)	State employees, elected officials, employees of local governments, legislative committees, community/technical colleges, classified employees of school districts, district/municipal court judges, and some employees of the Supreme, Appeals, and Superior Courts	After five years of eligible service	After 30 years of service, or at age 60 with five years service, or at age 55 with 25 years of service	2% of average final compensation (AFC) per year of service
<b>PERS Plan 2</b> (On or after 10/1/77)	Same as PERS Plan 1, except classified school district employees; new employees hired on or after 3/1/02 at state agencies and higher education, or on or after 9/1/02 at all other employers, must choose Plan 2 or Plan 3	After five years of eligible service	At age 65 with five years of service, or an actuarially reduced benefit at age 55 with 20 years of service	2% of AFC per year of service
<b>PERS Plan 3</b> (Varies by employer)	Same as PERS Plan 2; new employees hired on or after 3/1/02 at state agencies and higher education, or on or after 9/1/02 at all other employers, must choose Plan 2 or Plan 3	Varies	At age 65 if vested or an actuarially reduced benefit at age 55 with 10 years of service (defined benefit portion)	1% of AFC per year of service (defined benefit portion)
<b>SERS Plan 2</b> (On or after 9/1/00)	All classified employees of school districts or educational service districts	After five years of eligible service	At age 65 with five years of service, or an actuarially reduced benefit at age 55 with 20 years of service	2% of AFC per year of service
<b>SERS Plan 3</b> (On or after 9/1/00)	All classified employees of school districts or educational service districts	Varies	At age 65 if vested or an actuarially reduced benefit at age 55 with 10 years of service (deferred benefit portion)	1% of AFC per year of service (defined benefit portion)
<b>TRS Plan 1</b> (By 9/30/77)	All certificated public school employees	After five years of eligible service	Any age with 30 years of service, or at age 60 with five years of service or at age 55 with 25 years of service	2% of AFC per year of service
<b>TRS Plan 2</b> (On or after 10/1/77 and by 6/30/96)	All certificated public school employees	After five years of eligible service	At age 65 with five years of service, or an actuarially reduced benefit at age 55 with 20 years of service	2% of AFC per year of service
<b>TRS Plan 3</b> (On or after 7/1/96)	All certificated public school employees	Varies	At age 65 if vested or an actuarially reduced benefit at age 55 with 10 years of service (defined benefit portion)	1% of AFC per year of service (defined benefit portion)
<b>LEOFF Plan 1</b> (By 9/30/77)	All full-time, fully compensated law enforcement officers and fire fighters	After five years of eligible service	At age 50 with five years of service	20 years of service = 2% of final average salary (FAS) per year of service 10-19 = 1.5% FAS per year of service 5-9 = 1% FAS per year of service
<b>LEOFF Plan 2</b> (On or after 10/1/77)	All full-time, fully compensated law enforcement officers and fire fighters	After five years of eligible service	At age 53 with five years of service or a benefit at age 50 with 20 years of service reduced 3% for each year under age 53	2% of FAS per year of service
<b>WSPRS Plan 1</b> (On or after 8/1/47 and by 12/31/02)	Commissioned employees of the Washington State Patrol	After five years of eligible service	At age 55 or after 25 years of service	2% of average final salary per year of service
<b>WSPRS Plan 2</b> (On or after 1/1/03)	Commissioned employees of the Washington State Patrol	After five years of eligible service	At age 55 or after 25 years of service	2% of average final salary per year of service
<b>JRS</b> (On or after 8/9/71 and by 6/30/88 - New judges on or after 7/1/88 join PERS Plan 2)	Judges elected or appointed to the Supreme Court, the Court of Appeals and Superior Courts	After 15 years of service	At age 60	15 years of service = 3.5% of AFC per year of service 10-14 = 3% of AFC per year of service
<b>Judges</b> (By 8/8/71)	Judges elected or appointed to the Supreme Court, the Court of Appeals and Superior Courts	After 12 years of service	At age 70 with 10 years of service or any age with 18 years of service	1/2 of the monthly salary

DRS publishes handbooks describing the rights and benefits for each system and plan, including disability and survivor benefits. These handbooks are provided to members by their employers. They are also available from DRS and are on the DRS Web site at [www.drs.wa.gov](http://www.drs.wa.gov).

# Summary of Actuarial Assumptions and Methods

## 1. Actuarial Assumptions and Methods Selection:

**Economic Assumptions and Methods:** Developed in accordance with Washington State law and the Pension Funding Council.

**Demographic Assumptions and Methods:** Derived by the Washington State Office of the State Actuary and are based on the 1995-2000 Experience Studies (adopted April 1, 2002). The latest actuarial valuation includes additional assumptions for subsequent events and law changes.

**2. Investment Return:** 8.0% per annum

## 3. Mortality Tables:

Mortality rates are based on the RP-2000 Combined Healthy Table published by the Society of Actuaries. These rates are adjusted to better reflect expected mortality for the particular group. Rates are adjusted by an age set back or set forward. A minimum rate is also applied to disabled mortality.

Class	Contributing Members and Members Retired from Service	Disabled Members
PERS	RP-2000 Combined Healthy Table	RP-2000 Combined Healthy Table; males set forward six years, minimum 5%; females set forward six years, minimum 3.5%
SERS	RP-2000 Combined Healthy Table; males unadjusted; females set back two years	RP-2000 Combined Healthy Table; males set forward five years, minimum 3%; females set forward two years, minimum 3%
TRS	RP-2000 Combined Healthy Table; males set back two years; females set back two years	RP-2000 Combined Healthy Table; males set forward five years, minimum 3%; females set forward two years, minimum 1.75%
LEOFF	RP-2000 Combined Healthy Table	RP-2000 Combined Healthy Table; males set forward two years, minimum 0.5%; females set forward two years, minimum 0.5%
WSPRS	RP-2000 Combined Healthy Table	RP-2000 Combined Healthy Table; males set forward two years, minimum 0.5%; females set forward two years, minimum 0.5%
JRS	RP-2000 Combined Healthy Table	RP-2000 Combined Healthy Table; males set forward six years, minimum 5%; females set forward six years, minimum 3.5%



4. Retirement (page 1 of 3): Probabilities of service retirement are illustrated in the following tables:

**PERS Plan 1**  
Probabilities of Service Retirement  
Among Members Eligible to Retire

Age	Male	Female
50	64%	40%
51	57%	43%
52	52%	37%
53	52%	33%
54	52%	52%
55	22%	26%
56	22%	18%
57	22%	18%
58	22%	22%
59	22%	37%
60	22%	18%
61	22%	22%
62	40%	37%
63	26%	26%
64	30%	26%
65	49%	46%
66-69	30%	26%
70	100%	100%

**SERS Plan 2/3**  
Probabilities of Service Retirement  
Among Members Eligible to Retire

Age	Service Less Than 30 Years		Service Greater Than or Equal to 30 Years	
	Male	Female	Male	Female
54	2%	2%	4%	4%
55	5%	5%	7%	7%
56	5%	5%	7%	7%
57	5%	5%	7%	7%
58	10%	5%	14%	7%
59	10%	5%	14%	7%
60	14%	14%	21%	21%
61	14%	18%	21%	27%
62	33%	30%	50%	45%
63	26%	26%	39%	39%
64	79%	82%	90%	90%
65	52%	49%	52%	49%
66	30%	30%	30%	30%
67	22%	26%	22%	26%
68	22%	26%	22%	26%
69	100%	100%	100%	100%

**PERS Plan 2/3**  
Probabilities of Service Retirement  
Among Members Eligible to Retire

Age	Service Less Than 30 Years		Service Greater Than or Equal to 30 Years	
	Male	Female	Male	Female
55	5%	5%	7%	7%
56	5%	5%	7%	7%
57	5%	5%	7%	7%
58	10%	5%	14%	7%
59	10%	5%	14%	7%
60	14%	14%	21%	21%
61	14%	18%	21%	27%
62	33%	30%	50%	45%
63	26%	26%	39%	39%
64	79%	82%	90%	90%
65	52%	49%	52%	49%
66	30%	30%	30%	30%
67	22%	26%	22%	26%
68	22%	26%	22%	26%
69	26%	22%	26%	22%
70	100%	100%	100%	100%

**TRS Plan 1**  
Probabilities of Service Retirement  
Among Members Eligible to Retire

Age	Service Less Than 30 Years		Service Greater Than or Equal to 30 Years	
	Male	Female	Male	Female
54	25%	20%	40%	30%
55	20%	20%	35%	30%
56	20%	20%	35%	30%
57	20%	20%	40%	30%
58	20%	25%	45%	30%
59	20%	25%	45%	30%
60	20%	20%	60%	35%
61	45%	35%	60%	55%
62	30%	25%	60%	50%
63	25%	20%	60%	50%
64	45%	45%	90%	90%
65	45%	35%	90%	90%
66	35%	30%	90%	90%
67	30%	35%	90%	90%
68	30%	25%	90%	90%
69	100%	100%	100%	100%

4. Retirement (page 2 of 3):

**TRS Plan 2/3**  
**Probabilities of Service Retirement**  
**Among Members Eligible to Retire**

Age	Service Less Than 30 Years		Service Greater Than or Equal to 30 Years	
	Male	Female	Male	Female
54	5%	3%	8%	5%
55	5%	5%	8%	8%
56	5%	10%	8%	15%
57	5%	10%	8%	15%
58	5%	10%	8%	15%
59	20%	15%	30%	23%
60	40%	20%	60%	30%
61	30%	30%	45%	45%
62	30%	30%	45%	45%
63	60%	50%	90%	75%
64	50%	50%	50%	50%
65	50%	30%	50%	30%
66	50%	25%	50%	25%
67	50%	25%	50%	25%
68	50%	40%	50%	40%
69	100%	100%	100%	100%

**LEOFF**  
**Probabilities of Service Retirement**  
**Among Members Eligible to Retire**

Age	Plan 1 Rate	Plan 2 Rate
50	9%	10%
51	7%	10%
52	8%	10%
53	8%	16%
54	10%	19%
55	16%	24%
56	16%	25%
57	16%	25%
58	23%	33%
59	23%	33%
60	23%	33%
61	28%	37%
62	28%	37%
63	28%	37%
64	40%	48%
65	100%	100%

**WSPRS Plan 1/2**  
**Probabilities of Service Retirement**  
**Among Members Eligible to Retire**

Age	Rate
45-50	31%
51-55	23%
56-59	28%
60+	100%

**JRS**  
**Probabilities of Service Retirement**  
**Among Members Eligible to Retire**

Age	Rate
60	1%
61	1%
62	14%
63	14%
64	18%
65	30%
66	33%
67	18%
68	18%
69	18%
70	22%
71	22%
72	22%
73	22%
74	22%
75	100%

## 4. Retirement (page 3 of 3):

**PERS Plan 1**  
**Probabilities of Disablement**

Age	Male	Female
20	0.0000%	0.0000%
25	0.0000%	0.0000%
30	0.0000%	0.0000%
35	0.0310%	0.0319%
40	0.0762%	0.0710%
45	0.1481%	0.1431%
50	0.2542%	0.3023%
55	0.8240%	0.6411%
60*	1.1701%	0.6502%
64	1.1701%	0.5495%

\* Plan 1 we assume no disabilities for ages 60+.

**PERS Plan 2/3**  
**Probabilities of Disablement**

Age	Male	Female
20	0.0000%	0.0000%
25	0.0052%	0.0000%
30	0.0115%	0.0056%
35	0.0156%	0.0194%
40	0.0235%	0.0275%
45	0.0476%	0.0467%
50	0.0922%	0.1003%
55	0.2630%	0.2782%
60	0.7603%	0.7681%
64	1.0244%	1.0271%

**SERS Plan 2/3**  
**Probabilities of Disablement**

Age	Male	Female
20	0.0000%	0.0000%
25	0.0000%	0.0000%
30	0.0000%	0.0048%
35	0.0081%	0.0176%
40	0.0258%	0.0164%
45	0.0568%	0.0201%
50	0.1102%	0.0738%
55	0.3428%	0.2876%
60	0.9292%	0.5589%
64	1.2272%	0.6589%

**WSPRS Plan 1/2**  
**Probabilities of Disablement**

The assumed rate of disability is 0.1% at all ages.

**TRS Plan 1**  
**Probabilities of Disablement**

Age	Male	Female
20	0.0013%	0.0014%
25	0.0091%	0.0092%
30	0.0187%	0.0190%
35	0.0321%	0.0326%
40	0.0428%	0.0434%
45	0.0944%	0.0957%
50	0.1634%	0.1656%
55	0.3347%	0.3393%
60*	0.4686%	0.4750%
64	0.7213%	0.7311%

\* Plan 1 we assume no disabilities for ages 60+.

**TRS Plan 2/3**  
**Probabilities of Disablement**

Age	Male	Female
20	0.0003%	0.0003%
25	0.0024%	0.0019%
30	0.0048%	0.0040%
35	0.0083%	0.0068%
40	0.0111%	0.0091%
45	0.0244%	0.0201%
50	0.0422%	0.0347%
55	0.0866%	0.0712%
60	0.1212%	0.0997%
64	0.1865%	0.1534%

**LEOFF Plan 1 and Plan 2**  
**Probabilities of Disablement**

Age	Plan 1 Rate	Plan 2 Rate
20	0.10%	0.00%
25	0.10%	0.00%
30	0.80%	0.00%
35	1.48%	0.00%
40	2.35%	0.01%
45	4.24%	0.02%
50	7.34%	0.05%
55	10.35%	0.10%
60	12.17%	0.10%

**JRS-Probabilities of Disablement**

A 1 percent rate of disability is assumed at all ages after ten years of service.

**5. Other Terminations of Employment (page 1 of 2):** Probabilities of termination are illustrated in the following tables.

**PERS Plan 1 and Plan 2/3  
General Employment Turnover  
Probabilities of Termination**

Years of Service	Male	Female
0	25.90%	26.39%
1	15.46%	16.72%
2	10.20%	11.72%
3	7.69%	9.25%
4	6.39%	7.69%
5	5.31%	6.53%
6	4.35%	5.87%
7	4.07%	5.31%
8	3.73%	4.69%
9	3.54%	4.11%
10	3.25%	3.87%
11	3.10%	3.54%
12	3.05%	3.15%
13	2.86%	3.10%
14	2.76%	3.00%
15	2.66%	2.86%
16	2.37%	2.62%
17	2.13%	2.27%
18	1.83%	1.98%
19	1.49%	1.73%
20	1.14%	1.44%
21	0.95%	1.14%
22	0.75%	0.95%
23	0.60%	0.80%
24	0.55%	0.55%
25	0.50%	0.45%
26+	0.40%	0.40%

**SERS Plan 2/3  
General Employment Turnover  
Probabilities of Termination**

Years of Service	Male	Female
0	25.90%	19.45%
1	16.09%	12.87%
2	11.54%	10.07%
3	10.07%	7.60%
4	8.52%	6.58%
5	7.28%	5.97%
6	6.06%	5.31%
7	5.59%	5.21%
8	4.93%	4.83%
9	4.64%	4.64%
10	4.26%	4.50%
11	4.02%	4.45%
12	3.83%	4.40%
13	3.73%	4.40%
14	3.25%	4.21%
15	2.96%	4.26%
16	2.66%	3.78%
17	2.42%	3.44%
18	2.03%	3.10%
19	1.59%	2.62%
20	1.24%	2.03%
21	1.14%	1.59%
22	0.85%	1.29%
23	0.65%	0.85%
24	0.65%	0.75%
25	0.50%	0.75%
26+	0.50%	0.75%

5. Other Terminations of Employment (page 2 of 2):

**TRS Plan1 and Plan 2/3  
General Employment Turnover  
Probabilities of Termination**

Years of Service	Male	Female
0	9.65%	10.00%
1	6.00%	7.00%
2	4.00%	5.50%
3	4.00%	4.50%
4	3.50%	4.00%
5	3.00%	3.50%
6	2.20%	3.00%
7	2.10%	2.60%
8	2.00%	2.00%
9	1.90%	1.95%
10	1.80%	1.90%
11	1.80%	1.70%
12	1.00%	1.40%
13	1.00%	1.40%
14	1.00%	1.40%
15	1.00%	1.40%
16	0.95%	1.10%
17	0.90%	0.90%
18	0.80%	0.90%
19	0.70%	0.90%
20	0.50%	0.50%
21	0.50%	0.50%
22	0.50%	0.50%
23	0.50%	0.50%
24	0.50%	0.50%
25	0.50%	0.50%
26+	0.50%	0.50%

**WSPRS Plan 1/2  
General Employment Turnover  
Probabilities of Termination**

Years of Service	Probability
0-4	2.4%
5-9	1.4%
10-14	0.9%
15-19	0.6%
20-25	0.2%
25+	0.0%

**LEOFF Plan 1 and Plan 2  
General Employment Turnover  
Probabilities of Termination**

Years of Service	Turnover Rate
0	10.43%
1	4.69%
2	2.37%
3	2.08%
4	1.98%
5	1.94%
6	1.94%
7	1.94%
8	1.67%
9	1.67%
10	1.67%
11	1.42%
12	1.42%
13	1.42%
14-16	0.99%
17-28	0.70%
29+	0.00%

**JRS  
Other Rates of Termination  
Probabilities of Termination**

A 2 percent rate of termination is assumed for the first ten years of service.

**6. Future Salaries (page 1 of 2):** The following tables indicate the scale of relative salary values used to estimate future salaries for valuation purposes. In addition to increases in salary due to promotions and longevity, there is an assumed 4.5 percent per annum rate of increase in the general salary level of the membership.

**PERS Plan 1 and Plan 2/3  
Merit Salary Increases**

Years of Service	Percent Increase	Final Salary over Current Salary
1	6.1%	1.275
2	4.8%	1.201
3	3.8%	1.146
4	2.9%	1.104
5	2.1%	1.073
6	1.3%	1.051
7	1.0%	1.038
8	0.8%	1.027
9	0.6%	1.019
10	0.4%	1.013
11	0.3%	1.009
12	0.2%	1.006
13	0.1%	1.004
14	0.1%	1.003
15	0.1%	1.002
16	0.1%	1.001
17+	0.0%	1.000

**TRS Plan 1 and Plan 2/3  
Merit Salary Increases**

Years of Service	Percent Increase	Final Salary over Current Salary
1	6.2%	1.476
2	4.4%	1.390
3	4.2%	1.331
4	3.5%	1.278
5	3.1%	1.235
6	2.7%	1.197
7	2.6%	1.166
8	2.3%	1.136
9	2.1%	1.111
10	1.9%	1.088
11	1.7%	1.068
12	1.6%	1.050
13	1.4%	1.033
14	0.9%	1.019
15	0.8%	1.010
16	0.2%	1.002
17+	0.0%	1.000

**SERS Plan 2/3  
Merit Salary Increases**

Years of Service	Percent Increase	Final Salary over Current Salary
1	7.0%	1.280
2	3.9%	1.196
3	2.8%	1.151
4	2.3%	1.120
5	2.2%	1.095
6	1.5%	1.071
7	1.2%	1.055
8	1.0%	1.043
9	0.8%	1.032
10	0.7%	1.024
11	0.7%	1.017
12	0.3%	1.010
13	0.3%	1.007
14	0.2%	1.004
15	0.1%	1.002
16	0.1%	1.001
17+	0.0%	1.000

**LEOFF Plan 1 and Plan 2  
Merit Salary Increases**

Years of Service	Percent Increase	Final Salary over Current Salary
1	11.7%	1.810
2	8.1%	1.621
3	6.6%	1.499
4	4.5%	1.406
5	3.2%	1.346
6	2.5%	1.304
7	2.2%	1.272
8	2.0%	1.245
9	2.0%	1.221
10	2.0%	1.197
11	1.9%	1.173
12	1.8%	1.151
13	1.7%	1.131
14	1.6%	1.112
15	1.6%	1.095
16	1.6%	1.077
17	1.6%	1.060
18	1.6%	1.044
19	1.4%	1.027
20	1.3%	1.013
21+	0.0%	1.000

6. Future Salaries (page 2 of 2):

**WSPRS Plan 1/2  
Merit Salary Increases**

Years of Service	Percent Increase	Final Salary over Current Salary
1	6.0%	1.678
2	6.0%	1.583
3	6.0%	1.493
4	6.0%	1.409
5	6.0%	1.329
6	6.0%	1.254
7	1.3%	1.183
8	1.3%	1.168
9	1.3%	1.153
10	1.3%	1.138
11	1.3%	1.123
12	1.3%	1.109
13	1.3%	1.095
14	1.3%	1.081
15	1.3%	1.067
16	1.3%	1.053
17	1.3%	1.040
18	1.3%	1.026
19	1.3%	1.013
20	0.0%	1.000
21+	0.0%	1.000

**JRS  
Future Salaries**

General salary levels are assumed to increase 4.5% per year.

**Relative Salary Values**

	PERS/SERS	TRS	LEOFF	WSPRS	JRS
Annual Percent Increase	5.81%	5.44%	5.81%	5.81%	4.50%
Attributed to Growth in Active Group Size	1.25%	0.90%	1.25%	1.25%	0.00%
Attributed to the Effects of Inflation on Salaries	4.50%	4.50%	4.50%	4.50%	4.50%

## 7. Other Specific Assumptions that Have a Material Impact on Valuation Results:

- Members of PERS Plan 1 increase their Average Final Compensation by an average of up to 5 percent by cashing out sick leave or annual leave pay, or by increasing overtime.
- Members of TRS Plan 1 increase their Average Final Compensation by an average of up to 1 percent by cashing out sick leave or annual leave pay, or by increasing overtime.
- LEOFF Plan 1 post-retirement increases are assumed to be 3.5 percent each year.
- Members of WSPRS Plan 1 increase their Average Final Compensation by an average of up to 7.5 percent by cashing out sick leave or annual leave pay, or by increasing overtime.
- The value of gainsharing benefits for PERS, TRS and SERS has been included in the liabilities and contribution rates for the latest actuarial valuation.
- Other assumptions include the recognition of service earned in another plan (portability), the probability of a vested terminated member not withdrawing his/her contributions from the plan, the probability of being married, military service, single life annuity refund on death, and beneficiary age. More details on these and other assumptions can be obtained from the Office of the State Actuary.

## 8. Change in Assumptions:

None.

## 9. Actuarial Cost Method:

Valuation assets are at market value with gains/losses recognized on a graded scale over an eight-year period. Additionally, the actuarial value of assets may not exceed 130%, nor drop below 70%, of the market value of assets. JRS and Judges use the market value of assets for valuation assets.

### PERS Plan 1, TRS Plan 1, LEOFF Plan 1, JRS, and Judges:

Funding: A variation of the Aggregate Cost Method is used. The contribution toward the UAAL has been developed in the valuation as a level percentage of expected future covered payrolls which will amortize the UAAL over the period to June 30, 2024. While the LEOFF Plan 1 UAAL is fully funded no contributions are required. JRS and Judges are funded on a pay-as-you-go basis.

Disclosure: The funding method described in the previous paragraph for PERS Plan 1, TRS Plan 1, and LEOFF Plan 1 is not an acceptable method for the GASB Statement Number 25 disclosures. In order to meet GASB Statement Number 25 requirements, the Entry Age cost method has been used for these plans. The UAAL is amortized as a level dollar amount over the applicable amortization period. For PERS, TRS and LEOFF the end of the amortization period is June 30, 2024. For JRS and Judges, the end of the amortization period is December 31, 2008.

### PERS Plan 2/3, SERS Plan 2/3, TRS Plan 2/3, LEOFF Plan 2, and WSPRS Plan 1/2:

The Aggregate Actuarial Cost Method is used to calculate the contribution rates. Under this method the unfunded actuarial present value of fully projected benefits is amortized over the projected earnings of the active group. The entire contribution is normal cost, and no UAAL exists. All gains and losses are amortized over future salaries of current active members.

## 10. Change in Actuarial Cost Method:

The assets valuation method was modified to include a market value corridor. The actuarial value of assets may not exceed 130%, nor drop below 70%, of the market value of assets.



**11. Material Changes in Benefit Provisions and Contribution Rates:**

The GASB disclosure contribution rates are based on the latest actuarial valuations as of September 30, 2003.

The funding contribution rates in effect at the close of fiscal year were based on the 2001 actuarial valuations in accordance with funding policy. The rates include appropriate adjustments for subsequent law changes.

The following laws enacted in 2004 had an immediate impact on the latest actuarial valuation contribution rates:

- LEOFF Plan 2 duty disability benefits (Chapter 4, Laws of 2004)
- LEOFF Plan 2 duty death benefits (Chapter 5, Laws of 2004)
- PERS and TRS Plan 1 \$1,000 minimum benefit (Chapter 85, Laws of 2004)

## Additional Actuarial Schedules

### Schedule of Active Member Valuation Data: PERS Plan 1

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
9/30/03	19,740	\$945.1	\$47,876	1.7%
9/30/02	21,737	1,023.4	47,080	4.1%
9/30/01	23,981	1,084.6	45,226	3.2%
12/31/00	25,833	1,132.2	43,827	4.2%
12/31/99	28,168	1,184.3	42,045	3.6%
12/31/98	30,374	1,233.2	40,601	3.4%

Source: Washington State Office of the State Actuary

### Schedule of Active Member Valuation Data: PERS Plan 2

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
9/30/03	117,262	\$5,142.5	\$43,855	3.5%
9/30/02	116,939	4,952.6	42,352	4.0%
9/30/01	128,955	5,249.4	40,707	3.7%
12/31/00	126,428	4,964.2	39,265	19.1%
12/31/99	168,214	5,546.2	32,971	3.8%
12/31/98	161,476	5,131.4	31,778	1.9%

Source: Washington State Office of the State Actuary

### Schedule of Active Member Valuation Data: PERS Plan 3

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
9/30/03	17,548	\$786.6	\$44,823	(1.8%)
9/30/02	15,509	707.8	45,638	n/a
9/30/01*	--	--	--	--
12/31/00*	--	--	--	--
12/31/99*	--	--	--	--
12/31/98*	--	--	--	--

\* PERS Plan 3 became effective on March 1, 2002.

Source: Washington State Office of the State Actuary

### Schedule of Active Member Valuation Data: SERS Plan 2

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
9/30/03	21,504	\$493.9	\$22,967	6.4%
9/30/02	22,870	493.8	21,593	6.9%
9/30/01	24,063	485.9	20,193	(1.3)%
12/31/00	25,714	526.3	20,466	n/a
12/31/99*	--	--	--	--
12/31/98*	--	--	--	--

\* SERS Plan 2 became effective on September 1, 2000.

Source: Washington State Office of the State Actuary

### Schedule of Active Member Valuation Data: SERS Plan 3

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
9/30/03	27,710	\$638.7	\$23,051	4.8%
9/30/02	26,921	591.9	21,988	3.1%
9/30/01	24,284	517.8	21,324	(3.4)%
12/31/00	22,011	485.8	22,073	n/a
12/31/99*	--	--	--	--
12/31/98*	--	--	--	--

\* SERS Plan 3 became effective on September 1, 2000

Source: Washington State Office of the State Actuary

### Schedule of Active Member Valuation Data: TRS Plan 1

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
9/30/03	11,175	\$692.3	\$61,954	4.1%
9/30/02	12,456	741.1	59,496	3.9%
9/30/01	13,971	799.7	57,243	3.0%
6/30/00	17,222	957.2	55,580	5.8%
6/30/99	18,737	984.4	52,540	1.3%
6/30/98	20,165	1,046.4	51,891	3.6%

Source: Washington State Office of the State Actuary

### Schedule of Active Member Valuation Data: TRS Plan 2

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
9/30/03	7,637	\$414.9	\$54,333	6.3%
9/30/02	7,809	399.2	51,123	5.3%
9/30/01	8,056	391.2	48,563	5.0%
6/30/00	8,356	386.3	46,230	7.5%
6/30/99	8,663	372.7	43,022	2.2%
6/30/98	9,058	381.3	42,090	4.1%

Source: Washington State Office of the State Actuary

### Schedule of Active Member Valuation Data: TRS Plan 3

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
9/30/03	47,263	\$2,308.1	\$48,836	5.3%
9/30/02	45,798	2,123.6	46,369	4.6%
9/30/01	44,193	1,958.3	44,312	2.4%
6/30/00	38,280	1,657.1	43,288	5.6%
6/30/99	35,284	1,445.9	40,979	0.7%
6/30/98	32,605	1,326.8	40,694	19.2%

Source: Washington State Office of the State Actuary

### Schedule of Active Member Valuation Data: LEOFF Plan 1

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
9/30/03	991	\$71.3	\$71,924	3.2%
9/30/02	1,147	79.9	69,667	5.6%
9/30/01	1,315	86.7	65,959	4.2%
12/31/00	1,499	94.9	63,296	4.3%
12/31/99	1,743	105.8	60,683	3.1%
12/31/98	1,986	116.9	58,841	6.3%

Source: Washington State Office of the State Actuary

### Schedule of Active Member Valuation Data: LEOFF Plan 2

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
9/30/03	14,560	\$966.6	\$66,388	3.2%
9/30/02	14,011	901.6	64,347	5.2%
9/30/01	13,585	830.6	61,139	2.9%
12/31/00	13,133	780.2	59,410	4.2%
12/31/99	12,713	725.0	57,031	4.3%
12/31/98	11,870	649.3	54,700	5.5%

Source: Washington State Office of the State Actuary

### Schedule of Active Member Valuation Data: WSPRS Plan 1

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
9/30/03	1,045	\$64.6	\$61,848	2.4%
9/30/02	1,035	62.5	60,422	3.1%
9/30/01	1,027	60.2	58,633	1.5%
12/31/00	1,013	58.5	57,745	0.4%
12/31/99	968	55.7	57,496	4.8%
12/31/98	929	50.9	54,842	5.0%

Source: Washington State Office of the State Actuary

### Schedule of Active Member Valuation Data: WSPRS Plan 2

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
9/30/03	34	\$1.4	\$41,018	n/a
9/30/02	-	-	-	-
9/30/01	-	-	-	-
12/31/00	-	-	-	-
12/31/99	-	-	-	-
12/31/98	-	-	-	-

\* WSPRS Plan 2 became effective on January 1, 2003.

Source: Washington State Office of the State Actuary

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**Schedule of Active Member Valuation Data: JRS**


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Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
9/30/03	21	\$2.6	\$124,636	2.4%
9/30/02	24	2.9	121,741	6.3%
9/30/01	26	3.0	114,475	2.6%
12/31/00	32	3.6	111,570	6.1%
12/31/99	38	4.0	105,196	2.2%
12/31/98	40	4.1	102,935	1.4%

Source: Washington State Office of the State Actuary

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**Schedule of Active Member Valuation Data: Judges**


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Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
9/30/03	-	\$0.0	\$0	n/a
9/30/02	1	0.1	134,584	2.3%
9/30/01	1	0.1	131,558	6.4%
12/31/00	1	0.1	123,600	3.0%
12/31/99	1	0.1	120,000	7.1%
12/31/98	1	0.1	112,078	7.3%

Source: Washington State Office of the State Actuary

### Schedule of Retirees and Beneficiaries Added to and Removed from Rolls: PERS Plan 1

Year Ended	Added to Rolls		Removed from Rolls		Rolls-End of Year		Average Annual Allowance	Percentage Increase in Annual Allowance
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
09/30/03	2,661	\$63,493,857	2,295	\$21,236,351	54,372	\$815,176,602	\$14,993	7.3%
09/30/02	2,783	62,818,651	2,315	20,053,126	54,006	759,744,392	14,068	7.8%
09/30/01	2,077	44,457,501	1,700	14,141,440	53,538	704,757,211	13,164	6.3%
12/31/00	2,831	59,251,651	2,185	17,226,292	53,161	663,195,163	12,475	9.0%
12/31/99	2,680	52,982,694	2,113	16,128,342	52,515	608,698,282	11,591	7.7%
12/31/98	2,481	44,980,199	2,131	15,415,477	51,948	565,036,942	10,877	7.2%

Source: Washington State Office of the State Actuary

### Schedule of Retirees and Beneficiaries Added to and Removed from Rolls: PERS Plan 2

Year Ended	Added to Rolls		Removed from Rolls		Rolls-End of Year		Average Annual Allowance	Percentage Increase in Annual Allowance
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
09/30/03	1,403	\$12,591,831	240	\$1,365,574	10,904	\$80,863,349	\$7,416	19.3%
09/30/02	1,328	10,886,277	238	1,489,346	9,741	67,775,431	6,958	19.5%
09/30/01	855	6,840,039	131	707,695	8,651	56,726,796	6,557	15.3%
12/31/00	1,319	9,807,863	157	868,467	7,927	49,210,077	6,208	25.5%
12/31/99	1,198	8,229,229	118	549,264	6,765	39,204,885	5,795	27.3%
12/31/98	1,020	6,637,345	108	483,716	5,685	30,786,831	5,415	28.2%

Source: Washington State Office of the State Actuary

### Schedule of Retirees and Beneficiaries Added to and Removed from Rolls: PERS Plan 3

Year Ended	Added to Rolls		Removed from Rolls		Rolls-End of Year		Average Annual Allowance	Percentage Increase in Annual Allowance
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
09/30/03	77	\$375,280	--	\$--	86	\$419,481	\$4,878	859.8%
09/30/02	9	43,707	--	--	9	43,707	4,856	n/a
09/30/01	--	--	--	--	--	--	--	--
12/31/00*	--	--	--	--	--	--	--	--
12/31/99*	--	--	--	--	--	--	--	--
12/31/98*	--	--	--	--	--	--	--	--

\*PERS Plan 3 became effective on March 1, 2002.

Source: Washington State Office of the State Actuary

### Schedule of Retirees and Beneficiaries Added to and Removed from Rolls: SERS Plan 2

Year Ended	Added to Rolls		Removed from Rolls		Rolls-End of Year		Average Annual Allowance	Percentage Increase in Annual Allowance
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
09/30/03	307	\$1,968,085	8	\$45,290	736	\$4,573,302	\$6,214	76.5%
09/30/02	251	1,550,754	5	19,458	437	2,591,035	5,929	150.3%
09/30/01	165	884,752	1	1,873	191	1,035,001	5,419	583.5%
12/31/00	27	151,432	--	--	27	151,432	5,609	n/a
12/31/99*	--	--	--	--	--	--	--	--
12/31/98*	--	--	--	--	--	--	--	--

\*SERS Plan 2 became effective on September 1, 2000.

Source: Washington State Office of the State Actuary

### Schedule of Retirees and Beneficiaries Added to and Removed from Rolls: SERS Plan 3

Year Ended	Added to Rolls		Removed from Rolls		Rolls-End of Year		Average Annual Allowance	Percentage Increase in Annual Allowance
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
09/30/03	124	\$376,893	3	\$8,584	306	\$849,635	\$2,777	80.3%
09/30/02	109	272,549	2	3,471	185	471,143	2,547	137.8%
09/30/01	78	198,145	--	--	78	198,145	2,540	n/a
12/31/00	--	--	--	--	--	--	--	--
12/31/99*	--	--	--	--	--	--	--	--
12/31/98*	--	--	--	--	--	--	--	--

\*SERS Plan 3 became effective on September 1, 2000.

Source: Washington State Office of the State Actuary

### Schedule of Retirees and Beneficiaries Added to and Removed from Rolls: TRS Plan 1

Year Ended	Added to Rolls		Removed from Rolls		Rolls-End of Year		Average Annual Allowance	Percentage Increase in Annual Allowance
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
09/30/03	1,667	\$41,501,938	960	\$11,973,348	33,855	\$625,084,100	\$18,464	6.5%
09/30/02	1,892	46,113,665	939	11,361,709	33,148	587,202,226	17,715	7.9%
09/30/01	3,524	81,519,141	1,168	13,045,875	32,195	544,358,707	16,908	17.5%
06/30/00	1,799	38,290,541	880	9,273,313	29,839	463,256,486	15,525	8.2%
06/30/99	1,677	34,602,902	898	8,961,508	28,920	427,968,688	14,798	7.6%
06/30/98	1,632	33,153,335	823	7,977,486	28,141	397,649,379	14,131	7.7%

Source: Washington State Office of the State Actuary

### Schedule of Retirees and Beneficiaries Added to and Removed from Rolls: TRS Plan 2

Year Ended	Added to Rolls		Removed from Rolls		Rolls-End of Year		Average Annual Allowance	Percentage Increase in Annual Allowance
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
09/30/03	151	\$1,770,105	17	\$133,929	957	\$10,809,534	\$11,295	21.1%
09/30/02	120	1,493,131	6	50,461	823	8,927,586	10,848	22.8%
09/30/01	204	2,339,594	14	153,589	709	7,267,477	10,250	50.9%
06/30/00	126	1,299,148	5	32,227	519	4,814,556	9,277	38.9%
06/30/99	90	902,554	4	24,541	398	3,466,085	8,709	37.8%
06/30/98	83	731,178	2	12,944	312	2,515,288	8,062	43.0%

Source: Washington State Office of the State Actuary

### Schedule of Retirees and Beneficiaries Added to and Removed from Rolls: TRS Plan 3

Year Ended	Added to Rolls		Removed from Rolls		Rolls-End of Year		Average Annual Allowance	Percentage Increase in Annual Allowance
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
09/30/03	105	\$578,041	3	\$9,313	385	\$1,879,859	\$4,883	47.3%
09/30/02	81	360,835	1	6,282	283	1,276,593	4,511	42.7%
09/30/01	113	527,667	2	6,706	203	894,795	4,408	150.8%
06/30/00	42	180,129	--	--	92	356,823	3,879	101.6%
06/30/99	40	145,317	--	--	50	176,974	3,539	475.8%
06/30/98	6	19,834	--	--	10	30,735	3,074	181.9%

\*TRS Plan 3 became effective on July 1, 1996.

Source: Washington State Office of the State Actuary

**Schedule of Retirees and Beneficiaries Added to and Removed from Rolls: LEOFF Plan 1**

Year Ended	Added to Rolls		Removed from Rolls		Rolls-End of Year		Average Annual Allowance	Percentage Increase in Annual Allowance
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
09/30/03	234	\$9,466,933	167	\$5,043,126	8,054	\$270,247,173	\$33,554	3.3%
09/30/02	259	9,948,573	166	4,995,289	7,987	261,664,183	32,761	5.4%
09/30/01	233	8,351,533	119	3,479,510	7,894	248,160,932	31,437	5.7%
12/31/00	325	11,645,461	168	4,566,907	7,780	234,869,646	30,189	6.1%
12/31/99	348	11,397,460	159	4,062,564	7,623	221,408,074	29,045	6.0%
12/31/98	381	12,231,130	127	3,366,345	7,434	208,973,849	28,111	7.5%

Source: Washington State Office of the State Actuary

**Schedule of Retirees and Beneficiaries Added to and Removed from Rolls: LEOFF Plan 2**

Year Ended	Added to Rolls		Removed from Rolls		Rolls-End of Year		Average Annual Allowance	Percentage Increase in Annual Allowance
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
09/30/03	77	\$1,551,039	5	\$33,065	316	\$5,083,630	\$16,087	46.2%
09/30/02	61	1,069,822	1	11,964	244	3,476,883	14,250	48.1%
09/30/01	44	747,153	3	20,400	184	2,347,816	12,760	48.6%
12/31/00	45	610,415	2	15,024	143	1,579,593	11,046	66.4%
12/31/99	23	271,079	3	31,542	100	949,552	9,496	38.6%
12/31/98	13	158,887	--	--	80	685,058	8,563	31.5%

Source: Washington State Office of the State Actuary

**Schedule of Retirees and Beneficiaries Added to and Removed from Rolls: WSPRS Plan 1**

Year Ended	Added to Rolls		Removed from Rolls		Rolls-End of Year		Average Annual Allowance	Percentage Increase in Annual Allowance
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
09/30/03	28	\$1,222,157	11	\$216,943	735	\$25,438,609	\$34,610	7.1%
09/30/02	35	1,156,113	13	194,199	718	23,743,788	33,069	7.4%
09/30/01	36	1,440,257	12	224,122	696	22,105,141	31,760	9.0%
12/31/00	37	1,367,942	12	105,489	672	20,271,907	30,167	8.6%
12/31/99	49	1,507,418	14	231,872	647	18,670,760	28,857	9.2%
12/31/98	38	1,304,229	6	104,581	612	17,097,410	27,937	9.5%

Source: Washington State Office of the State Actuary

**Schedule of Retirees and Beneficiaries Added to and Removed from Rolls: JRS**

Year Ended	Added to Rolls		Removed from Rolls		Rolls-End of Year		Average Annual Allowance	Percentage Increase in Annual Allowance
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
09/30/03	6	\$367,945	8	\$415,446	129	\$8,373,681	\$64,912	1.4%
09/30/02	4	229,792	7	294,080	131	8,258,774	63,044	2.1%
09/30/01	6	411,383	3	126,097	134	8,090,219	60,375	6.6%
12/31/00	7	406,024	8	228,527	131	7,588,432	57,927	4.2%
12/31/99	7	252,731	9	464,254	132	7,284,962	55,189	(0.7)%
12/31/98	6	200,878	7	275,335	134	7,336,530	54,750	1.5%

Source: Washington State Office of the State Actuary



### Schedule of Retirees and Beneficiaries Added to and Removed from Rolls: Judges

Year Ended	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances	Average Annual Allowance	Percentage Increase in Annual Allowance
09/30/03	2	\$94,021	3	\$20,715	17	\$698,277	\$41,075	11.7%
09/30/02	1	37,131	1	74,261	18	624,971	34,721	(5.6%)
09/30/01	--	--	--	--	18	662,102	36,783	--
12/31/00	--	--	--	--	18	662,102	36,783	--
12/31/99	--	--	1	5,427	18	662,102	36,783	(0.8)%
12/31/98	1	74,261	--	--	19	667,529	35,133	12.5%

Source: Washington State Office of the State Actuary

### Solvency Test: PERS Plan 1

(dollars in millions)

Accrued Liabilities (Entry Age Cost Method):					Portion of Accrued Liabilities Covered by Assets			
Valuation Date	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability	(1+2+3) Total Accrued Liability	Valuation Assets	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability
9/30/03	\$1,411.3	\$8,327.8	\$2,952.8	\$12,691.9	\$10,227.3	100%	100%	17%
9/30/02	1,462.7	7,848.9	3,248.8	12,560.4	10,756.8	100%	100%	44%
9/30/01	1,515.9	7,231.7	3,340.8	12,088.4	10,989.9	100%	100%	67%
12/31/00	1,685.8	6,795.8	3,213.2	11,694.8	11,110.6	100%	100%	82%
12/31/99	1,581.0	6,453.8	3,601.2	11,636.0	10,455.5	100%	100%	67%
12/31/98	1,712.9	5,922.7	3,591.5	11,227.1	9,218.8	100%	100%	44%

Source: Washington State Office of the State Actuary

### Solvency Test: PERS Plan 2/3

(dollars in millions)

Accrued Liabilities (Aggregate Cost Method):					Portion of Accrued Liabilities Covered by Assets			
Valuation Date	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability	(1+2+3) Total Accrued Liability	Valuation Assets	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability
9/30/03	\$1,962.7	\$1,582.3	\$7,297.3	\$10,842.3	\$10,842.3	100%	100%	100%
9/30/02	1,891.8	1,386.2	7,422.8	10,700.8	10,700.8	100%	100%	100%
9/30/01	2,118.5	1,217.6	7,695.5	11,031.6	11,031.6	100%	100%	100%
12/31/00	2,416.0	1,095.6	7,237.0	10,748.6	10,748.6	100%	100%	100%
12/31/99	2,294.8	968.9	8,107.3	11,371.0	11,371.0	100%	100%	100%
12/31/98	2,392.9	774.0	6,339.0	9,505.9	9,505.9	100%	100%	100%

Source: Washington State Office of the State Actuary

### Solvency Test: SERS Plan 2/3

(dollars in millions)

Accrued Liabilities (Aggregate Cost Method):					Portion of Accrued Liabilities Covered by Assets			
Valuation Date	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability	(1+2+3) Total Accrued Liability	Valuation Assets	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability
9/30/03	\$173.8	\$150.0	\$1,222.2	\$1,546.0	\$1,546.0	100%	100%	100%
9/30/02	174.5	97.4	1,247.1	1,519.0	1,519.0	100%	100%	100%
9/30/01	171.9	49.6	1,250.2	1,471.7	1,471.7	100%	100%	100%
12/31/00	353.4	3.2	1,495.9	1,852.5	1,852.5	100%	100%	100%
12/31/99*	--	--	--	--	--	--	--	--
12/31/98*	--	--	--	--	--	--	--	--

\* SERS Plan 2/3 became effective on September 1, 2000

Source: Washington State Office of the State Actuary

### Solvency Test: TRS Plan 1

(dollars in millions)

Accrued Liabilities (Entry Age Cost Method):					Portion of Accrued Liabilities Covered by Assets			
Valuation Date	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability	Total (1+2+3) Accrued Liability	Valuation Assets	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability
9/30/03	\$1,049.5	\$6,934.0	\$2,341.6	\$10,325.1	\$9,085.9	100%	100%	47%
9/30/02	1,091.2	6,627.2	2,516.6	10,235.0	9,365.9	100%	100%	65%
9/30/01	1,173.8	6,120.5	2,600.6	9,894.9	9,341.8	100%	100%	77%
6/30/00	1,408.0	5,140.0	3,017.7	9,565.7	9,372.0	100%	100%	94%
6/30/99	1,384.1	4,917.0	3,227.9	9,529.0	8,696.1	100%	100%	74%
6/30/98	1,466.0	4,506.0	3,382.0	9,354.0	7,819.3	100%	100%	55%

Source: Washington State Office of the State Actuary

### Solvency Test: TRS Plan 2/3

(dollars in millions)

Accrued Liabilities (Aggregate Cost Method):					Portion of Accrued Liabilities Covered by Assets			
Valuation Date	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability	Total (1+2+3) Accrued Liability	Valuation Assets	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability
9/30/03	\$264.5	\$364.5	\$3,320.0	\$3,949.0	\$3,949.0	100%	100%	100%
9/30/02	259.3	314.3	3,226.6	3,800.2	3,800.2	100%	100%	100%
9/30/01	259.0	254.0	3,034.2	3,547.2	3,547.2	100%	100%	100%
6/30/00	331.4	183.2	2,735.1	3,249.7	3,249.7	100%	100%	100%
6/30/99	238.5	156.4	2,512.9	2,907.8	2,907.8	100%	100%	100%
6/30/98	108.1	125.2	2,333.8	2,567.1	2,567.1	100%	100%	100%

Source: Washington State Office of the State Actuary

### Solvency Test: LEOFF Plan 1

(dollars in millions)

Accrued Liabilities (Entry Age Cost Method):					Portion of Accrued Liabilities Covered by Assets			
Valuation Date	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability	Total (1+2+3) Accrued Liability	Valuation Assets	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability
9/30/03	\$115.2	\$3,718.5	\$441.2	\$4,274.9	\$4,803.3	100%	100%	100%
9/30/02	126.6	3,648.3	484.1	4,259.0	5,095.0	100%	100%	100%
9/30/01	138.3	3,505.0	509.7	4,153.0	5,368.9	100%	100%	100%
12/31/00	154.2	3,299.3	548.9	4,002.4	5,439.6	100%	100%	100%
12/31/99	165.6	3,313.5	646.2	4,125.3	5,149.7	100%	100%	100%
12/31/98	178.0	3,036.5	691.2	3,905.7	4,567.5	100%	100%	100%

Source: Washington State Office of the State Actuary

## Solvency Test: LEOFF Plan 2

(dollars in millions)

Accrued Liabilities (Aggregate Cost Method):					Portion of Accrued Liabilities Covered by Assets			
Valuation Date	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability	(1+2+3) Total Accrued Liability	Valuation Assets	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability
9/30/03	\$820.0	\$137.2	\$1,783.2	\$2,740.4	\$2,740.4	100%	100%	100%
9/30/02	750.8	99.9	1,795.3	2,646.0	2,646.0	100%	100%	100%
9/30/01	686.8	72.1	1,816.7	2,575.6	2,575.6	100%	100%	100%
12/31/00	650.3	55.2	1,753.8	2,459.3	2,459.3	100%	100%	100%
12/31/99	568.8	38.7	1,555.4	2,162.9	2,162.9	100%	100%	100%
12/31/98	511.5	33.3	1,227.2	1,772.0	1,772.0	100%	100%	100%

Source: Washington State Office of the State Actuary

## Solvency Test: WSPRS Plan 1/2

(dollars in millions)

Accrued Liabilities (Aggregate Cost Method):					Portion of Accrued Liabilities Covered by Assets			
Valuation Date	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability	(1+2+3) Total Accrued Liability	Valuation Assets	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability
9/30/03	\$47.4	\$335.4	\$281.2	\$664.0	\$664.0	100%	100%	100%
9/30/02	46.9	313.2	328.9	689.0	689.0	100%	100%	100%
9/30/01	46.7	294.8	370.3	711.8	711.8	100%	100%	100%
12/31/00	51.7	270.2	390.1	712.0	712.0	100%	100%	100%
12/31/99	46.3	230.1	161.1	437.5	662.2	100%	100%	100%
12/31/98	47.3	211.5	152.1	410.9	576.1	100%	100%	100%

Source: Washington State Office of the State Actuary

## Solvency Test: JRS

(dollars in millions)

Accrued Liabilities (Entry Age Cost Method):					Portion of Accrued Liabilities Covered by Assets			
Valuation Date	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability	(1+2+3) Total Accrued Liability	Valuation Assets	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability
9/30/03	\$4.9	\$74.5	\$11.4	\$90.8	\$6.3	100%	2%	--
9/30/02	5.1	74.4	12.7	92.2	8.1	100%	4%	--
9/30/01	5.0	74.1	12.4	91.5	9.6	100%	6%	--
12/31/00	5.8	72.8	14.5	93.1	9.9	100%	6%	--
12/31/99	6.2	70.6	17.3	94.1	9.1	100%	4%	--
12/31/98	6.1	72.6	17.5	96.2	7.6	100%	2%	--

This is a relatively small fund administered by DRS which is funded on a pay-as-you-go basis.

Source: Washington State Office of the State Actuary

## Solvency Test: Judges

(dollars in millions)

Accrued Liabilities (Entry Age Cost Method):					Portion of Accrued Liabilities Covered by Assets			
Valuation Date	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability	(1+2+3) Total Accrued Liability	Valuation Assets	(1) Active Members Contributions	(2) Inactive Members Liability	(3) Excess Accrued Liability
9/30/03	\$ --	\$5.2	\$--	\$5.2	\$4.5	n/a	87%	n/a
9/30/02	--	4.7	0.8	5.5	4.7	100%	100%	--
9/30/01	--	5.3	0.8	6.1	4.9	100%	92%	--
12/31/00	--	5.3	0.7	6.0	4.7	100%	89%	--
12/31/99	--	5.7	0.8	6.5	4.4	100%	77%	--
12/31/98	--	5.8	0.7	6.5	4.1	100%	70%	--

This is a relatively small fund administered by DRS which is funded on a pay-as-you-go basis.  
Source: Washington State Office of the State Actuary

**Analysis of Selected Experience: PERS Plan 1**  
**Selected Gains and Losses During Years Ended 1998 to 2003**  
**Resulting from Difference Between Assumed Experience and Actual Experience**

(dollars in millions)						
Type of Activity	\$ Gain (or Loss) For Year					
	2003	2002	2001	2000	1999	1998
Investment Gains	(\$679.7)	(\$702.2)	(\$422.3)	\$86.2	\$856.5	\$644.4
Salary Gains	90.8	(14.7)	(16.8)	(38.8)	15.6	26.7
Termination of Employment	16.4	8.5	13.2	12.7	8.4	7.1
Return to Work from Terminated Status	(16.6)	(15.5)	(35.2)	(49.1)	(53.1)	(57.0)
Gain (or Loss) During Year from Selected Experience	(\$589.1)	(\$723.9)	(\$461.1)	\$11.0	\$827.4	\$621.2

Source: Washington State Office of the State Actuary

**Analysis of Selected Experience: PERS Plan 2/3**  
**Selected Gains and Losses During Years Ended 1998 to 2003**  
**Resulting from Difference Between Assumed Experience and Actual Experience**

(dollars in millions)						
Type of Activity	\$ Gain (or Loss) For Year					
	2003	2002	2001	2000	1999	1998
Investment Gains	(\$802.9)	(\$680.5)	(\$430.8)	\$45.9	\$886.7	\$602.8
Salary Gains	245.5	(12.1)	(21.3)	(76.3)	30.1	47.1
Termination of Employment	41.5	4.2	33.1	41.0	38.4	31.5
Return to Work from Terminated Status	(77.9)	(65.8)	(71.8)	(72.4)	(95.4)	(95.0)
Gain (or Loss) During Year from Selected Experience	(\$593.8)	(\$754.2)	(\$490.8)	(\$61.8)	\$859.8	\$586.4

Source: Washington State Office of the State Actuary

**Analysis of Selected Experience: SERS Plan 2/3\***  
**Selected Gains and Losses During Years Ended 1998 to 2003**  
**Resulting from Difference Between Assumed Experience and Actual Experience**

(dollars in millions)						
Type of Activity	\$ Gain (or Loss) For Year					
	2003	2002	2001	2000	1999	1998
Investment Gains	(\$101.4)	(\$107.2)	(\$52.6)	\$16.0	\$ --	\$ --
Salary Gains	5.8	(0.3)	11.3	13.9	--	--
Termination of Employment	32.0	6.9	4.8	4.0	--	--
Return to Work from Terminated Status	(9.5)	(18.0)	(18.9)	(23.3)	--	--
Gain (or Loss) During Year from Selected Experience	(\$73.1)	(\$118.6)	(\$55.4)	\$10.6	\$ --	\$ --

\* SERS Plan 2/3 became effective September 1, 2000

Source: Washington State Office of the State Actuary

**Analysis of Selected Experience: TRS Plan 1**  
**Selected Gains and Losses During Years Ended 1998 to 2003**  
**Resulting from Difference Between Assumed Experience and Actual Experience**

(dollars in millions)

Type of Activity	\$ Gain (or Loss) For Year					
	2003	2002	2001	2000	1999	1998
Investment Gains	(\$405.9)	(\$409.1)	(\$300.3)	\$496.3	\$552.7	\$689.8
Salary Gains	(2.1)	13.3	49.4	(70.2)	184.3	34.8
Termination of Employment	14.9	6.0	6.5	5.5	2.8	2.7
Return to Work from Terminated Status	(12.1)	(13.8)	(21.8)	(19.1)	(20.6)	(15.8)
Gain (or Loss) During Year from Selected Experience	(\$405.2)	(\$403.6)	(\$266.2)	\$412.5	\$719.2	\$711.5

Source: Washington State Office of the State Actuary

**Analysis of Selected Experience: TRS Plan 2/3**  
**Selected Gains and Losses During Years Ended 1998 to 2003**  
**Resulting from Difference Between Assumed Experience and Actual Experience**

(dollars in millions)

Type of Activity	\$ Gain (or Loss) For Year					
	2003	2002	2001	2000	1999	1998
Investment Gains	(\$160.1)	(\$159.7)	(\$118.1)	\$164.0	\$187.7	\$234.3
Salary Gains	1.1	32.7	65.2	(50.8)	107.5	18.6
Termination of Employment	78.5	15.3	5.9	10.1	7.7	5.2
Return to Work from Terminated Status	(46.7)	(20.6)	(36.4)	(30.6)	(25.4)	(13.0)
Gain (or Loss) During Year from Selected Experience	(\$127.2)	(\$132.3)	(\$83.4)	\$92.7	\$277.5	\$245.1

Source: Washington State Office of the State Actuary

**Analysis of Selected Experience: LEOFF Plan 1**  
**Selected Gains and Losses During Years Ended 1998 to 2003**  
**Resulting from Difference Between Assumed Experience and Actual Experience**

(dollars in millions)

Type of Activity	\$ Gain (or Loss) For Year					
	2003	2002	2001	2000	1999	1998
Investment Gains	(\$422.1)	(\$513.7)	(\$205.1)	\$44.3	\$427.3	\$321.3
Salary Gains	17.9	9.4	24.7	16.9	0.6	0.2
Termination of Employment	0.0	0.5	0.6	0.5	0.1	0.7
Return to Work from Terminated Status	(2.4)	(0.5)	(0.5)	(1.1)	(1.5)	(0.2)
Gain (or Loss) During Year from Selected Experience	(\$406.6)	(\$504.3)	(\$180.3)	\$60.6	\$426.5	\$322.0

Source: Washington State Office of the State Actuary

**Analysis of Selected Experience: LEOFF Plan 2**  
**Selected Gains and Losses During Years Ended 1998 to 2003**  
**Resulting from Difference Between Assumed Experience and Actual Experience**

(dollars in millions)

Type of Activity	\$ Gain (or Loss) For Year					
	2003	2002	2001	2000	1999	1998
Investment Gains	(\$198.6)	(\$246.2)	(\$99.5)	\$9.1	\$165.4	\$109.9
Salary Gains	113.9	28.8	39.9	(0.3)	2.0	(25.0)
Termination of Employment	20.9	0.9	1.1	1.1	0.4	0.9
Return to Work from Terminated Status	(21.3)	(2.0)	(2.0)	(2.1)	(4.4)	(2.3)
Gain (or Loss) During Year from Selected Experience	(\$85.1)	(\$218.5)	(\$60.5)	\$7.8	\$163.4	\$83.5

Source: Washington State Office of the State Actuary

**Analysis of Selected Experience: WSPRS Plan 1**  
**Selected Gains and Losses During Years Ended 1998 to 2003**  
**Resulting from Difference Between Assumed Experience and Actual Experience**

(dollars in millions)

Type of Activity	\$ Gain (or Loss) For Year					
	2003	2002	2001	2000	1999	1998
Investment Gains	(\$55.6)	(\$68.1)	(\$27.3)	\$5.0	\$53.5	\$39.6
Salary Gains	11.2	6.9	4.1	3.7	(6.2)	(6.9)
Termination of Employment	(0.9)	0.3	0.1	0.2	0.1	0.1
Return to Work from Terminated Status	(0.7)	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)
Gain (or Loss) During Year from Selected Experience	(\$46.0)	(\$61.1)	(\$23.2)	\$8.8	\$47.3	\$32.7

Source: Washington State Office of the State Actuary